in stimulated nerves. Hence such temperature changes as accompany the excitation of living nerves in these animals must be extremely small, if they occur at all. Likewise, nerves in the process of dying fail to show a change of temperature.

As bearing on the question of "thermogenic" as distinguished from "motor" nerves, it appears that the temperature of a muscle poisoned with curara does not rise on stimulation of the nerve, indicating that not only do the nervous impulses causing contraction of the muscle, but also those causing rise of temperature, (and they may or may not be one and the same) fail to effect the muscle, after curara.

The Johns Hopkins Hospital Reports, 1891, II, No. 6. *Report in Neurology, I.*

1. BERKLEY.—A case of Chorea insaniens, with a contribution to the germ theory of chorea.
2. SIMON.—Acute angio-neurotic oedema.
3. HOCH.—Haematomyelia.
4. THOMAS.—A case of cerebro-spinal syphilis, with an unusual lesion in the spinal cord.

In the papers above cited, the clinical and pathological points of view, as contrasted with the anatomical, are most emphasized. It will therefore be sufficient to mention here a few facts of very general interest connected with them. The study of chorea (1) is based on two cases—one a dog. In the first case towards the end of life, the chorea was associated with mental confusion. The post-mortem appearances to which the most value is attached were in the meninges and vessels, and are interpreted as the result of the action of a pathogenic germ or its products. To the numerous small extravasation of red blood corpuscles found in the nerve substances, but little significence is attached. Towards the end of the paper the changes occuring in the liver and kidney in diphtheria, are compared with those in the meninges, brain and kidneys in chorea, with a view to emphasizing the similarities and thus furnishing indirect evidence for the germ theory of chorea.

The disease designated as acute angio-neurotic oedema (2) is characterized by rather circumscribed swellings, appearing suddenly and often periodically, usually multiple and affecting the eyelids, lips, hands, feet, genitals, and buttocks by preference. There is often profuse vomiting. Three cases are carefully described. Vaso-mator influences alone appear insufficient to explain all the results, but as the disturbance is credited to the sympathetic system, these vaso-motor influences must be considered as one factor at least.

In the discussion of Haematomyelia (3) it is pointed out that hemorrhage into the spinal cord, not produced by trauma, is very rare. In the two cases described, while trauma is by no means excluded, yet the paralysis did not appear in one case until six days, and in the other until three weeks after the accident. The particular muscles affected were carefully studied, and from the probable location of the lesion the spinal centres for these several muscles is inferred, the inferences being controlled by what is already established in the localization of arm centres in the cord.

Dr. Thomas's case (4) yields the following anatomical summary. "Syphilitic orchitis. Syphilitic endarteritis (gumnatous) of cerebral arteries. Gumma on left third nerve involving crus. Gummata on left fourth, right sixth, ninth and twelfth nerves, and in brain. Gumma on anterior roots of three cervical nerves. Meningitis of cord. Poliomyelitis of lumbar enlargement. Hyaline degeneration in the walls of the small arteries." In the faithful account, both clinical and anatomical, which is given there, are a number of interesting points. No symptoms

were observed which corresponded with the marked changes found in the lumbar cord. The tumor on the right sixth nerve should have caused paralysis of the external rectus muscle of the right eye. The right eye had been tested shortly before death but no such paralysis was observed. On the peripheral side of the gumma this nerve did contain a number of well preserved nerve fibres, and this, too, in spite of the fact that the fibres could not be traced through the tumor. In the first place it is remarkable that the nerve should not have been destroyed, and in the second place that it should transmit despite the fact that the nerve fibre could not be traced through it.

WALDEYER, *Ueber einige neuere Forschungen im Gebiete der Anatomie des Centralnervensystems*, Deutsche med. Wochenschr. 1891 XVII 1213, 1244, 1267, 1287, 1331, 1352.

This review of recent work on the finer anatomy of the nervous system is from the hand of an acknowledged master. It is intended to show how far the improvements in the histological technique have, during the past few years, revolutionized the views on the architecture of the nervous system. The first paper starts with a historical review of the subject up to the year 1880, throwing into a scheme the ideas then current. Next follows a statement of Golgi's principle results. Undisputed is his observation that the nerve process (axis-cylinder process or prolongation) is branched, and that in certain cases it branches so much as to lose its identity within the gray matter about it. Disputed are his interpretation of the two sorts of cells as sensory and motor and his hypothesis that the branches from the nerve-process form a morphologically continuous net work throughout the nervous system and that the protoplasmic processes are purely nutritive in function. The points of difference in the views of the brothers Ramon y Cajal and Golgi are clearly stated. One very important point in the conception of the nerve cell is the value to be attached to the protoplasmic prolongations. There is much to be said in favor of the view that they possess functions not dissimilar in kind from those of the nerve process.

In order to form a picture of the arrangement of the elements in the spinal cord it is to be remembered that we have to deal within the cord with (1) commissure-cells (Commissurenzellen), (2) the column-cells (Strangzellen), (3) the nerve-root cells (Nervenwurzelzellen), (4) the cells of the dorsal cornua with the diffusely branching nerve-process. Outside of the cord lie the cells of the spinal ganglia. In general the relation of these elements appears to be the following: The fibres of the dorsal roots—for the most part taking origin from the ganglia of the dorsal root—enter the cord and there divide into an ascending and a descending ramus. From the rami arise at short intervals the so-called collateral branches which penetrate the gray substance and end in terminal brushes. The relation of these terminations to the cells is a close one but nevertheless not that of continuity. To follow the relations topographically, there are in the dorsal cornua the cells with the diffusely branching nerve process, the function of which is not evident. In the column of Clark, or Stilling's dorsal nucleus—as Waldeyer prefers to call it—the cells appear of the group designated as column-cells. Their nerve process passes to the lateral column and they may or may not divide into an ascending and a descending ramus. If undivided the fibre turns cephalad and, in any case, gives off collaterals along its course. In most parts of the gray matter cells of this class are to be found. The commissure-cells differ from the last only in the fact that the nerves coming from them cross the middle line by way of the ventral commissure before they turn longitudinally.

The root fibre cells form a final group. In most of them the nerve-